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ABSTRACT

California State University (CSU), Chico, has used its relatively isolated location to develop an extensive educational system known as "Instructional Television for Students" (ITFS). Currently, the university is launching plans for new partnerships utilizing satellite technology for the delivery of educational programs. Over the years, the ITFS system at CSU, Chico, has been expanded to a network of 16 remote sites throughout Northeastern California, including community colleges, county school offices, military bases, hospitals, and industries. Off-campus ITFS students can complete a bachelor's degree in a number of fields. In September 1984, CSU, Chico, in a cooperative arrangement with the Hewlett Packard (H-P) Corporation, will provide the first courses in a program leading to the master's degree in computer science. H-P students around the nation will be able to access the Chico collection for educational purposes. Consideration is being given to the potential of new electronic partnerships and the delivery of entire degree programs via satellite. Appendices include maps showing: the 19 campuses of CSU; the service areas of CSU, Chico; and the remote sites served by the Chico ITFS system. Information on ITFS course offerings is included. (SW)

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PARTNERSHIPS THROUGH INNOVATIVE TELECOMMUNICATIONS AT CALIFORNIA STATE UNIVERSITY, CHICO

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ABSTRACT

California State University, Chico, located in rural Northeastern California, originally established in 1887 as California's second State Normal School, was recently declared the most innovative campus in the 19 campus California State University system. This role of innovative leadership did not develop overnight, but was nurtured by a series of partnerships developed when the institution was first established. Working within the existing academic structure and with developing telecommunications technology, CSU, Chico, has utilized its relatively isolated location to develop an extensive educational ITFS partnership system and is launching plans for new partnerships utilizing satellite technology for the delivery of educational programs.

INTRODUCTION: CSU, CHICO IN PERSPECTIVE
A CENTURY OF PARTNERSHIPS
TELECOMMUNICATIONS GROWTH AND DEVELOPMENT
CURRENT ACTIVITIES
TEMPORARY CONCLUSIONS

* To be presented at the National Conference entitled "Building Partnerships for Quality Education in Rural America" sponsored by the United States Department of Education, Washington, D.C., June 28-30, 1984.

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INTRODUCTION: CSU, CHICO IN PERSPECTIVE

California State University, Chico, located in rural Northeastern California, 99 miles north of the state capital at Sacramento, was established in 1887 as California's second State Normal School. In 1921 the State Normal School became a State Teacher's College and in 1924 it became a four year college. In 1960, what is now known as the California State University was established, unifying 19 campuses under a central chancellor's office in Long Beach (Attachment #1).

In 1972 Chico State became California State University, Chico and the institution is now a comprehensive University, operating on an annual budget of $65 million a year, offering Bachelor's and Master's degrees in a wide variety of subjects. There are approximately 14,000 students at the University with 1,600 faculty and staff, and the greater community of Chico has approximately 60,000 residents. The two other major segments of public education in California are the California Community Colleges, with 106 institutions, and the University of California system with nine institutions.

The CSU system office has assigned designated service areas to each of the 19 campuses and Chico's service area is the largest in the system: 33,000 square miles (or approximately 21 percent of the state of California) with a primarily rural population of only 600,000 individuals (or 2.1 percent of the State's population) (Attachments #2 and #3). The University has always had a commitment, therefore, to serve a dispersed remote population.

A CENTURY OF PARTNERSHIPS

Chico will soon be entering its second 100 years of educational activities and just as the partnerships of the past allowed the University to prosper and succeed in the 19th and 20th Centuries, so will new partnerships allow the University to flourish into the 21st Century. With a long history of teacher training, Chico has an excellent reputation throughout the region as an instructional institution of higher learning: alumni are employed throughout California and the the entire United States.

As higher education went through changes in the 1960's and 1970's, individuals in California realized that cooperation was the key to educational and institutional survival. The growth of colleges and universities in the 1960's and 1970's was phenomenal. Established campuses, such as Chico, had an inherent advantage as they advanced into the future because they already had a spirit of trust and cooperation well established.

In the late 1960's and into 1970, a study on the needs of higher education in rural Northeastern California was conducted by the California Coordinating Council of Higher Education. While the report itself was important, what was even more important was the process of analyzing what were the needs of higher education in a rural environment and what sort of partnerships would have to be developed.

A direct result of this report was the formation of the Northeastern California Higher Education Council (NCHEC). Formally organized in 1972, NCHEC is a consortium of six rural community colleges, and California State University, Chico (Attachment #4). NCHEC was established to assist its member

institutions to meet the higher education needs of regular students and potential students who live throughout the sparsely settled region of Northeastern California. NCHEC continues to facilitate intersegmental regional planning and program development and as a result of this partnership, a unique rural delivery system for education in Northeastern California known as "Instructional Television For Students" (ITFS) was established.

The reputation of the University is one of the reasons for its great success in today's telecommunication activities, and in a 1984 survey of faculty and administrators of the 19 campus California State University system, published in CALIFORNIA HIGHER EDUCATION, CSU, Chico was rated number one in "innovation" because of the University's telecommunication activities throughout rural Northeastern California (Attachment #5). The article pointed out, "As communication technology developed, Chico was quick to substitute the airwaves and phone lines for the automobile and rural highway" as it continued building partnerships throughout the region (Giles 1984: 14).

TELECOMMUNICATIONS GROWTH AND DEVELOPMENT

Telecommunications at CSU, Chico, for our purposes, revolve primarily around: (1) the ITFS System, (2) the new ten-meter C-Band transmit/receive earth station, and (3) the University Library's on-line card catalog which is totally accessible in machine readable format. With over 1,000,000 items in the library, the machine-readable format makes it the largest complete retrospective collection accessible via computer terminals.

ITFS, properly known as "Instructional Television Fixed Service" became operational at CSU, Chico in the spring of 1975. On the national level, ITFS began in 1961 when the FCC issued the first license to the Plainedge School System in Long Island, New York (Curtis 1979: 29). After this experiment, the Congress of the United States amended the Communications Act of 1934 to provide for "Grants for Educational Television Broadcasting Facilities" with PL 87-447 (Curtis 1979: 29). In July of 1963 the FCC authorized 31 ITFS channels; in 1966 there were six ITFS systems in the United States, by 1976 there were 106 systems, and today there are more than 300 ITFS education systems in the nation (Myers 1977).

The CSU, Chico ITFS system was originally established to link Chico with the University of California, Davis, 92 miles from campus. Once again, the seeds of partnership which began in 1887, and nurtured by the creation of NCHEC, became operational with the creation of a telecommunications link. UC, Davis wished to use some of Chico's Computer Science courses and faculty for their own developing Ph.D. program and this was done through the ITFS system. Davis students took Chico courses via ITFS and Chico students took UC, Davis courses.

Over the years, the Chico ITFS system has been expanded to a network of 16 remote sites throughout Northeastern California (Attachment #6). The first CSU, Chico ITFS classroom was a single room with hanging microphones, one camera and one technician.

Today the ITFS classroom is a state-of-the-art facility:

> The CSU, Chico ITFS/Microwave System is currently a one-way video, two-way audio system which is live and interactive. CSU, Chico is licensed to operate four channels but currently only one channel is utilized due to the limitations of a single broadcast classroom. The ITFS classroom can comfortably seat 32 individuals. In the classroom are four television cameras, two of which face the front of the class to pick up the instructor, one camera which is an overhead camera over the instructor's desk, and one camera at the front of the classroom which can televise the on-campus students to the viewers throughout the region. The instructor is outfitted with a wireless microphone and there are sixteen microphones in the classroom (one for every two students) so the students in the CSU, Chico class can also interact with the off-campus ITFS student (Meuter, Wright, and Urbanowicz 1983: 158).

The ITFS system transmits classes from 8AM to 10PM Monday through Friday with occasional Saturday utilization. When ITFS began in the Spring of 1975, there was no coherent grouping of courses offered (Attachment #7). Now, the off-campus ITFS student, with proper planning and counseling, can complete a B.A. degree in either Social Science or Sociology, a Paralegal Certificate Program, and individual Minors in California Studies, Family Relations, Gerontology, and Sociology (Attachment #8). Various courses appropriate to the B.S. and M.S. degrees in Computer Science are also available via ITFS. Courses for appropriate programs are scheduled semesters and years in advance and long-range planning has been beneficial to the students and the University. The University is gradually phasing-in the necessary computer terminals at the receive sites throughout the region for full access to Chico's machine-readable library collection.

The most distant ITFS receive site is located 173 miles north of campus in the community of Yreka; the eastern leg of the

system extends 140 miles over the Sierra Nevada into the community of Herlong and the Sierra Army Depot; the southern and southeastern legs of the system extend into Beale Air Force base, the computer-production facilities of Hewlett Packard in Roseville (80 miles away), and the training Center of the Grass Valley Group, a producer of sophisticated electronic equipment.

Support for the ITFS system throughout the region has been tremendous. The partnerships which have developed over the years in rural northeastern California have resulted in the University having ITFS learning center sites at community college locations, county schools offices, elementary and high schools, military bases, hospitals, and area industries. The system and the supporting infrastructure have developed with the partnerships established over the years. The personnel of the University's Instructional Media Center maintain the classroom hardware and various mountain-top locations for the ITFS/Microwave equipment and all of satellite electronics; the Continuing Education Office coordinates the academic program offerings over ITFS and satellite and other non-technical activities necessary for the success of the programs.

In addition to regular ITFS courses, the system has also been used occasionally by groups who wish to deliver some specific educational programs. The California Commission on Peace Officers Standards and Training has utilized the system to provide cost-effective training to law enforcement officials throughout Northeastern California (H. Mitchum 1983: 43). Future plans include satellite delivery to provide training and update programs covering the entire state at one time.

CURRENT ACTIVITIES

A decade of successful ITFS experience has provided the stimulus to launch into the next phase of educational telecommunication activities using satellite delivery. Partnerships for quality education are a distinct reality when one has a combination of the necessary telecommunication systems and the content which can be delivered via satellite technology.

In September 1984, CSU, Chico, in a cooperative arrangement with the Hewlett Packard Corporation, will provide the first courses in a program leading to the Master's Degree in Computer Science (Attachment #9). Computer Science courses are scheduled to be delivered via satellite to Hewlett Packard facilities in the Western United States.

Satellite technology is truly making the world a "smaller" place in the electronic sense and partnerships can be established throughout the world via the electronic medium. The Fall 1984 satellite courses, originating from CSU, Chico, will be a pioneering effort of delivering live and fully-interactive university courses leading to a degree via satellite to in-plant locations. Just as computer terminals throughout Northeastern California have access to Chico's machine-readable library collection, H-P students scattered around the nation will also be able to access the Chico collection for educational purposes.

A prediction was made in 1972 by the Carnegie Commission on Higher Education that "by the year 2000 over 80 percent of off-campus instruction...will use information technology (Feasley 1983: 1). ITFS at California State University, Chico, was a logical step in delivering educational activities to the citizens

of the region, and satellite technology was the next phase in our long-range planning for "ITFSatellite" partnerships.

The ITFS system was built with a variety of funds, including two successful National Telecommunications and Information Administration grants of the Department of Commerce, CSU, Chico campus support, and support from the CSU System. Continuing Education program development funds were used to purchase the transmit/receive earth station, a ten meter C-Band manufactured by Scientific Atlanta.

With the success of ITFS throughout the region with our "traditional" rural partners, we are now looking into the potential of "new electronic partnerships" and the delivery of entire degree programs via satellite. Although transponder time on a satellite could be considered expensive (approximately $500 per hour), satellite delivery is cost-effective when dealing with large areas and large numbers of receive sites. We are entering the satellite field with a decade of experience with ITFS and an excellent record of long-range planning.

Chico has participated in numerous teleconferences delivered via satellite and in Fall 1984, with up-link capability, we will begin broadcasting various teleconferences and courses to receive sites around the nation. Plans are currently underway for a second on-campus origination room: one for standard ITFS classes and one for satellite programs.

TEMPORARY CONCLUSION

Information is a valuable resource and information delivered in the most efficient and cost-effective manner is an even more

valuable educational resource. We are moving into the future at an accelerating pace and even greater use of teleconferencing is just around the corner. As Frederick Williams, former Dean of the Annenberg School of Communications at the University of Southern California has pointed out:

> In a sense, telecommunications as used in education can represent a form of teleconferencing. Consider the Instructional Television Fixed Service facilities where students are seated in a classroom that is relatively normal except for the existence of two or three remotely operated television cameras....Studies of the use of teleconferencing with the Instructional Television Fixed Service facilities indicate a number of advantages (1982: 104; also see Williams 1983: 193).

In the area of satellite activities, CSU, Chico has joined the National University Teleconference Network (NUTN) which currently consists of more than 110 institutions of higher education and we have been invited to join the Campus Conference Network (CCN) of the Public Service Satellite Consortium (PSSC). We are also looking into the benefits of joining the Honolulu-based Pacific Telecommunications Council, with representation from nations around the Pacific Basin. Chico currently provides both the B.S. and M.S. Degrees in Computer Science to personnel at the Naval Weapons Center Facilities at China Lake, California, 500 miles south of the Chico campus and these same courses could be delivered via satellite to both China Lake and other installations around the Pacific Basin.

The future of all telecommunication activities is tremendous, and planning for new electronic partnerships is definitely

needed. As Congressman Wirth stated in his 1981 report on TELECOMMUNICATIONS IN TRANSITION:

> The technological revolution--particularly in the video sector--hold a promise of great abundance for the public. The evolution of new delivery systems offering an array of new channels from a host of new program suppliers present the historic possibility of abolishing the scarcity on which the existing regulatory scheme, and the content and behavioral rules it imposes, has been based (Wirth 1981: 21).

Educators, military and industry representatives, and elected officials need to be in communication with one another and in communication with individuals from the telecommunications industry. Telecommunication challenges can be successully dealt with if we are all aware of the tremendous potential for new partnerships through the electronic medium. Educators, especially those who are in teaching situations and who have telecommunications facilities, owe it to their students and colleagues to have the greatest awareness of what is occuring right now in the world about them.

At California State University, Chico, we are firmly committed to the concept of providing educational services for the on-campus student as well as the distant learner, and we honestly feel that we are as current as an educational institution can be in this area and we certainly view ourselves as leaders in the field. We seek partnerships because partnerships have been good for us and good for our students.

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Urbanowicz, C. F.
Wright, L. J.
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Williams, Frederick
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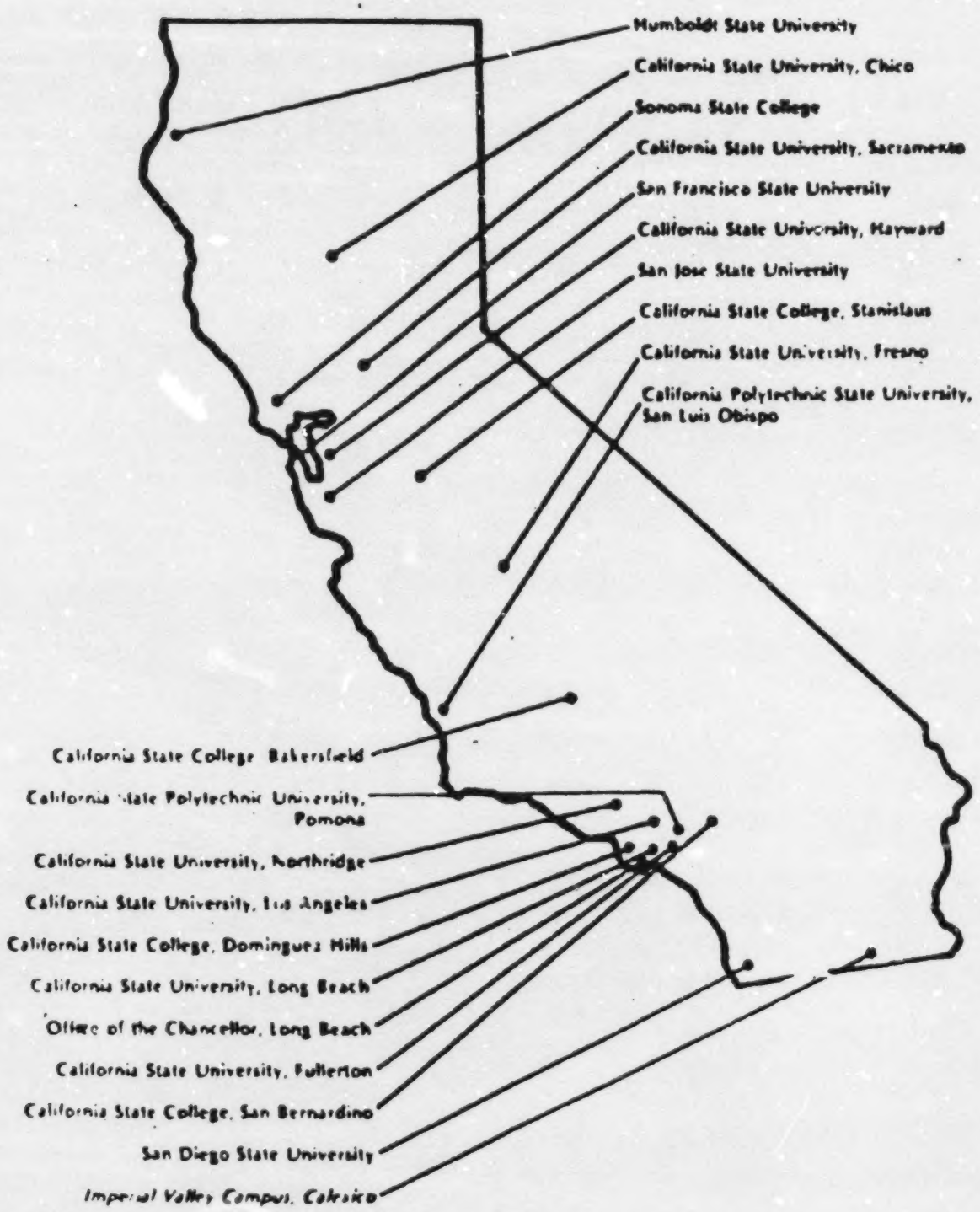
THE CALIFORNIA STATE UNIVERSITY

Attachment #1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California State University, Chico
Sonoma State College
California State University, Sacramento
San Francisco State University
California State University, Hayward
San Jose State University
California State College, Stanislaus
California State University, Fresno
California Polytechnic State University, San Luis Obispo
California State College Bakersfield
California State Polytechnic University, Pomona
California State University, Northridge
California State University, Los Angeles
California State College, Dominguez Hills
California State University, Long Beach
Office of the Chancellor, Long Beach
California State University, Fullerton
California State College, San Bernardino
San Diego State University
Imperial Valley Campus, Calexico

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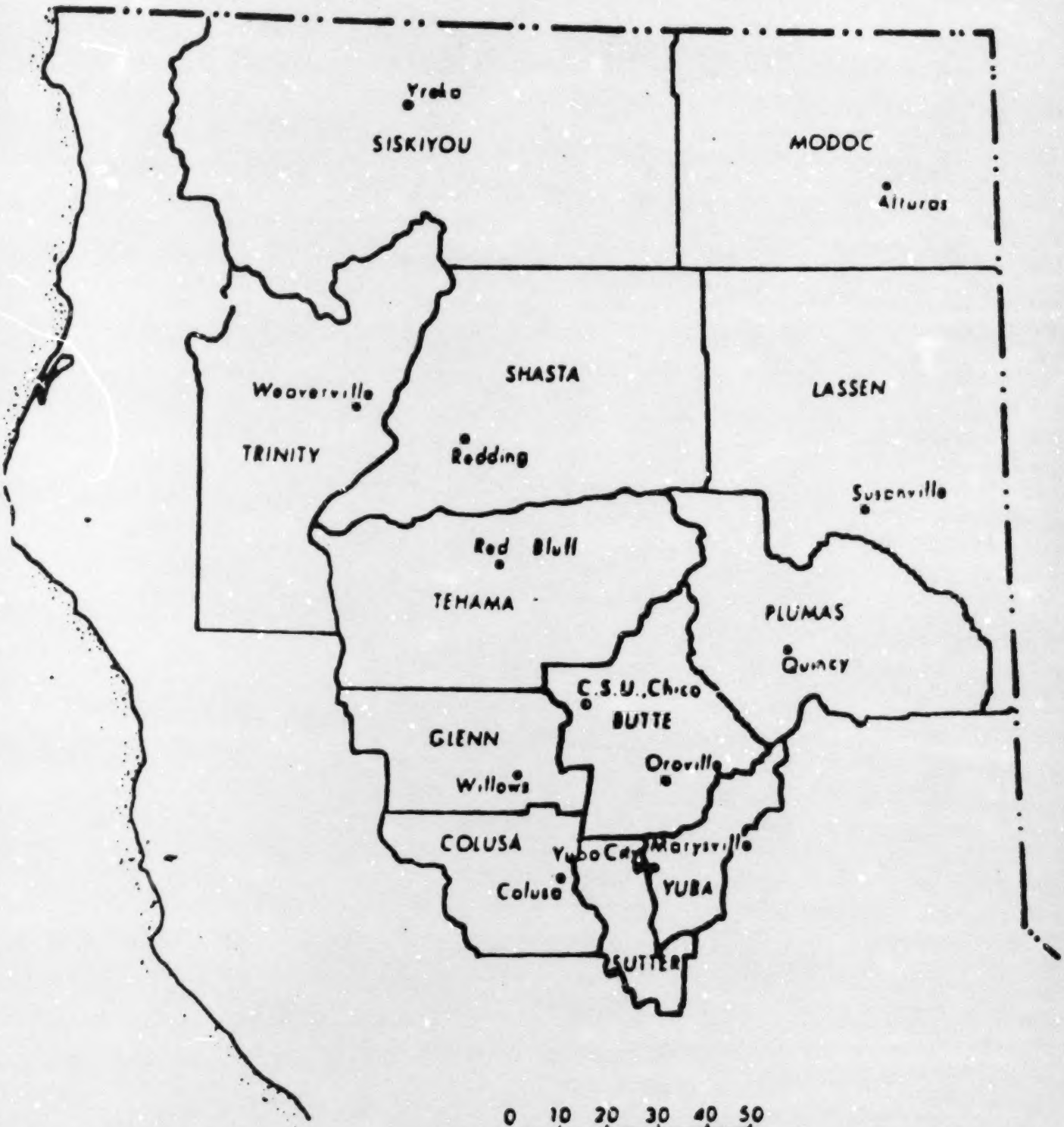
SERVICE REGION FOR CALIFORNIA STATE UNIVERSITY, CHICO

Attachment #2



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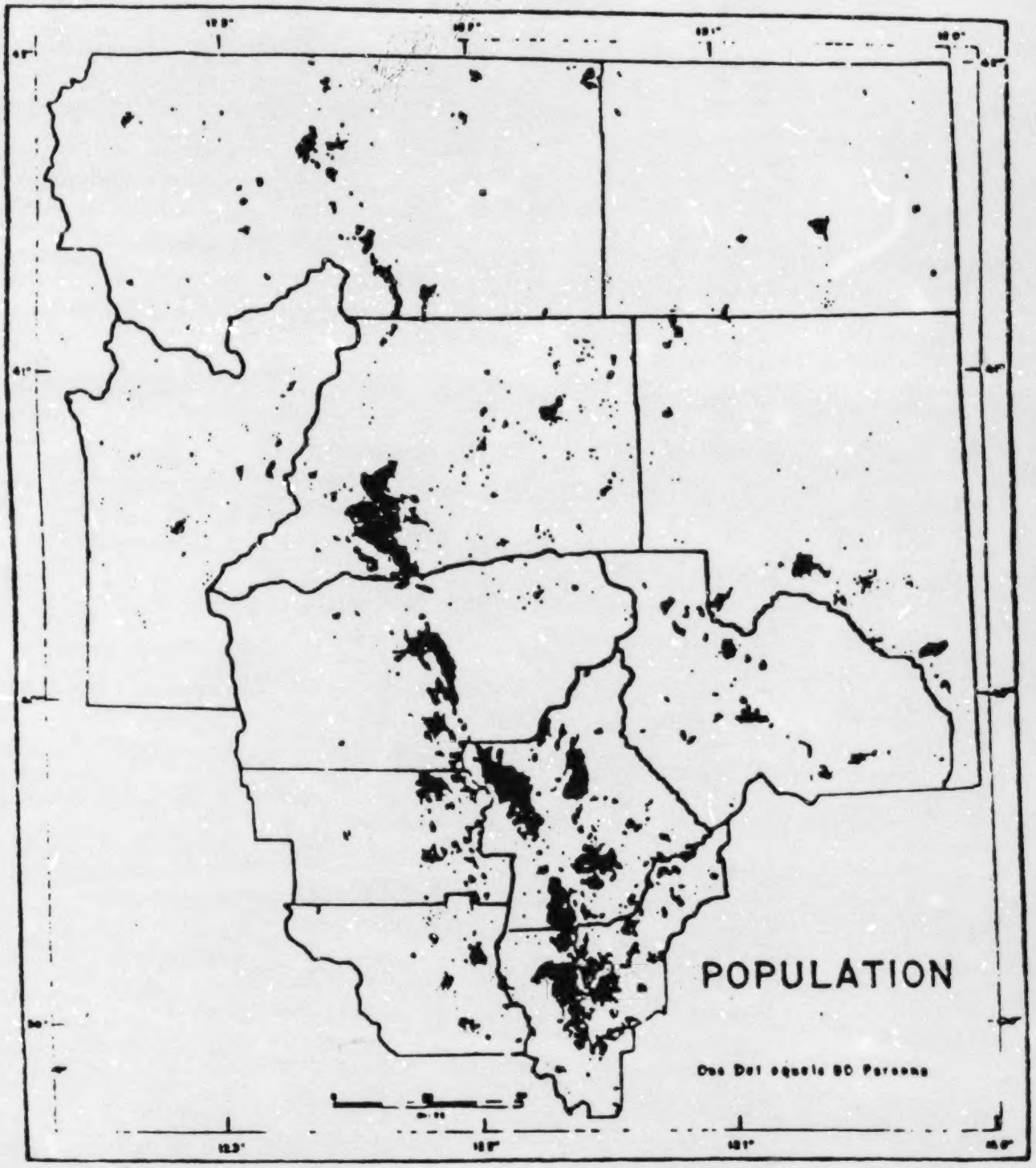

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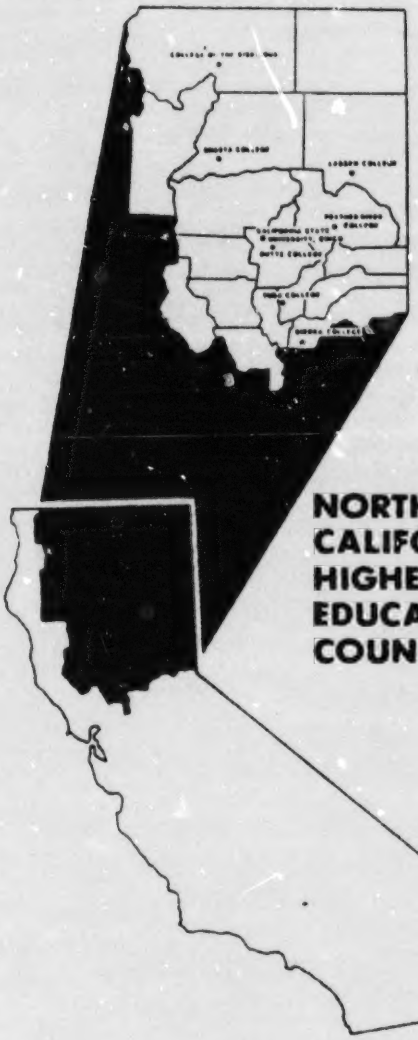

NORTHEASTERN CALIFORNIA HIGHER EDUCATION COUNCIL

NCHEC members

Butte Community College
Rt. 1, Box 183A
Oroville, CA 95965
(916) 895-2511

Feather River College
P.O. Box 1110
Quincy, CA 95971
(916) 283-0202

Lassen Community College
P.O. Box 3000
Susanville, CA 96130

Shasta College
1065 North Old Oregon Trail
Redding, CA 96001

Sierra College
5000 Rocklin Road
Rocklin, CA 95677
(916) 624-3333

College of the Siskiyous
800 College Avenue
Weed, CA 96094
(916) 938-4463

Yuba College
2088 North Beale Road
Marysville, CA 95901
(916) 742-7351

California State University, Chico
Chico, CA 95929
(916) 895-6116

Attachment #5

CALIFORNIA STATE UNIVERSITY, CHICO FIRST IN INNOVATION

In a mail survey conducted in January by *California Higher Education* magazine among faculty and administrators in The California State University, Chico received top marks in innovation and was shown to be one of the most respected campuses within the system.

When asked to name the campuses where the best teaching is taking place, where significant program innovation is underway and where management has a distinguished record of achievement, California State University administrators and faculty selected San Diego and Chico as the mostly highly respected campuses within the CSU family.

Editor Ray Giles reported inthe March issue that CSU, Chico was rated No. 1 among the 19 campuses "that have made significant contributions to higher education in the design and implementation of innovative academic, student services and administrative programs."

Each of the 19 campuses received 17 questionnaires for its top administrators and 77 were sent to the CSU headquarters in Long Beach.

In the article, Giles wrote, "In citing Chico as number one (innovation), respondents repeatedly cited the university's instructional television program that serves rural communities throughout Northeastern California, its continuing education program and external degree program, and computerized library."

Chico's reputation as a pioneer led *California Higher Education* to develop a follow-up story focusing on the history, programs and management style of CSU, Chico. After visiting the campus, Giles filed the following special report.

Chico is just about ready to beam itself nationally

Future is now

If research has been a primary factor behind San Diego's emergence as an outstanding teaching institution, isolation can be said to be a key reason for Chico's impressive record of academic innovation.

Founded nearly a hundred years ago to provide teacher training for residents of the rural, northern part of the state, Chico has from its very beginnings been the only public four-year institution serving a region of California roughly the size of Ohio.

As long ago as fifty years the campus established its continuing education program, sending faculty members by car to teach students in Redding, Weaverville and surrounding towns. In the late 1960s, Chico was the first CSU campus to offer an external degree program.

As communication technology developed, Chico was quick to substitute the airwaves and phone lines for the automobile and rural highway.

In the early 1970s, UC Davis came to Chico for help in establishing its computer science doctorate degree program. Davis was seeking accreditation for the program but had some gaps in its faculty. Chico, which in the early '60s had established one of the first computer science programs outside an engineering department, had the faculty and reputation Davis needed. UC and CSU funds were then obtained to establish a microwave link between the two campuses and Davis students soon thereafter began taking classes, via the airwaves, from teachers at Chico.

With its first broadcast link in operation and the potential for similar service to other parts of the region no less obvious, the campus began to create what it now refers to as its ITFS network, or "Instructional Television for Students." Today, ITFS broadcasts 25 classes to 13 regional learning centers from Yreka to Roseville. Students in centers throughout the system can simultaneously take the same class originating from the main campus and, by use of phones, can talk to the teacher, ask questions and participate in discussions with students located in centers throughout the 36,000 square mile region.

President Robin Wilson

But this is only the beginning. Three years ago the university used some federal grant money and its own funds to purchase a satellite earth station capable of not only receiving programs, seminars and conferences from anywhere in the U.S., but, before 1984 is over, of "up linking", or broadcasting its own programs, seminars or conferences to locations throughout the country via satellite.

Already, Chico provides, via microwave, classes to the Hewlett-Packard plant in Roseville. President Robin Wilson, a published science fiction writer, says that within the next year Chico will be broadcasting classes, via satellite, to HP plants in Boise, Portland, Santa Rosa and Santa Clara.

Wilson is currently chair of the CSU's commission on educational telecommunications, a group that is developing policy to deal with the very questions Chico is raising with its innovations in off-campus instruction. Those issues include tuition for out-of-state students and the issue of one CSU campus providing instructional programs in the service area of another.

One advantage of being so innovative, Wilson believes, is that "as we move into new areas in which there is no central policy, we have a great deal of freedom."

Says Ralph Meuter, dean of the continuing education program, "What happens at lots of institutions is to ask what the policy is. What has been the character of this place is to develop the capability and work out the policy simultaneously, which is true innovation."

The university is establishing new programs in student services as well. The library, for example, has responded to the needs of students in the university's regional learning centers as well as at local community colleges with a computerized catalog system that provides access to print and video materials on campus. The university, in tandem with a local building contractor, is also working on a 100 apartment complex designed specifically to attract single parents. □

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Instructional Television for Students

ITFS SITES

1. **YREKA:**
Yreka Union High School (Library) & home reception through Cal-Nor Cableview

2. **WEED:**
College of the Siskiyous (Library) & Home reception through Siskiyou Cable Company

3. **WEAVERVILLE:**
Trinity County Schools Office & home reception through Trinity Cable Company

4. **REDDING:**
Shasta County Schools Office (Media Center)

5. **REDDING:**
Shasta College (not available 1983-84)

6. **ANDERSON:**
Anderson High School (Library)

7. **RED BLUFF:**
Antelope Elementary School

8. **OROVILLE:**
Butte County Schools Office (not available 1983-84) & home reception through Nor-Cal Cable vision Inc

9. **COLUSA**
Colusa Unified School District Office & home reception through Nor-Cal Cablevision Inc

10. **YUBA CITY/MARYSVILLE**
Chico Regional Learning Center at Yuba College

11. **BEALE AIR FORCE BASE**
(Training Center)

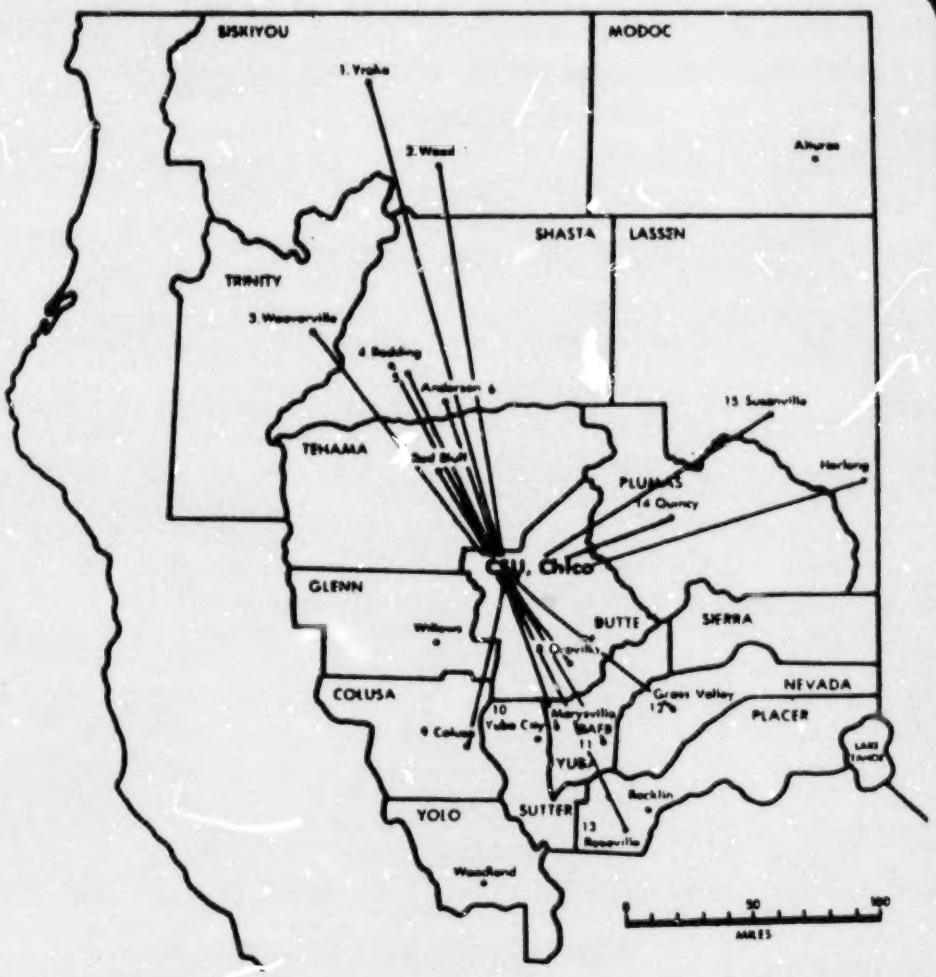
12. **GRASS VALLEY**
Grass Valley Group (Training Center)

13. **ROSEVILLE**
Hewlett Packard

14. **QUINCY.**
Feather River College

15. **SUSANVILLE**
Lassen College

16. **HERLONG**
Sierra Army Depot



What is ITFS?

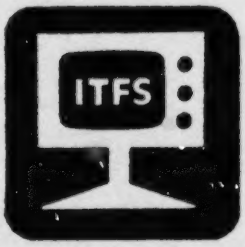
Officially, ITFS actually stands for Instructional Television Fixed Service. ITFS was authorized on the federal level by the Federal Communications Commission in 1963 to "provide a means for the transmission of instructional and cultural materials in visual form."

In 1966 there were only 6 ITFS systems in the entire United States but by 1976 there were 18!

On the campus of California State University, Chico, we call ITFS "Instructional Television for Students."

ITFS COURSES IN THE PAST HAVE INCLUDED THE FOLLOWING:

King Tut
Mainstreaming
Survey of Finance
California Gold Rush
Sociology of Religion
Computer Morphology
The Bible as Literature
Literature for Children
Cultural Anthropology
Comparative Education
Psychology of Prejudice
Literature for Adolescents
Science Fiction/Science Fact
Women in American History
Bigfoot and Other Monsters
The Ruins of Ancient Mexico
Overview of Special Education
Peoples and Cultures of Hawai'i
Proseminar in Special Education
Management of Cost Accounting
Seminar in Educational Sociology
Foundations of Bilingual Education
Introduction to Public Administration
Administration of Pre-School Programs
Curriculum Development: Social Studies
Spatial Concepts in the Study of Behavior
Survey of Child and Adolescent Psychology
Current Trends in Statistical Analysis in Education
Senior Seminar in Management Decision Simulation



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At California State University, Chico, the following course numbering system is used: courses numbered 100 and up are all upper division University courses, courses numbered 200-399 would carry graduate credit for graduate students; 300-level courses are restricted to graduate students only, except by permission of the instructor.

Intersession 1984 ITFS Course

EDUC 348H, The RST: Parent Education (Patricia Phipps)	(1) **		4:00-6:50p

**Course meets on Wed.: Jan. 4, Mon.: Jan. 9, Wed.: Jan. 11, Mon.: Jan. 16, and Wed.: Jan. 18.

Spring 1984 ITFS Courses

4,10-POLS 255, Legal Paraprofessional (Paul Persons)	(3)	MWF	8:00-8:50a
4,10-POLS 265, Administration of Justice (Ed Bronson)	(3)	MWF	9:00-9:50a
1-SOSC 230, Capstone Seminar in Family Relations (Marjorie Donovan)	(3)	MWF	10:00-10:50a
1,7,8-SOCI 132, Problems of Modern Family Adjustment (Homer Metcalf)	(3)	MWF	11:00-11:50a
CSCI, Specific course to be arranged		MWF	12:00-12:50p
PSY 112, Learning in the Child (Jane Rysberg)	(3)	MWF	1:00-1:50p
9-HCSV 231, Introduction to Health Care Delivery Systems (Virigina Frazier)	(3)	MWF	2:00-2:50p
CSCI, Specific course to be arranged		MWF	3:00-3:50p
CSCI, Specific course to be arranged		TTH	8:00-9:15a
CSCI, Specific course to be arranged		TTH	9:30-10:45a
HIST 120B, Russian History (Nicholas Nagy-Talavera)	(3)	TTH	11:00-12:15p
7,8-SOCI 105, Social Theory: 19th Century (Jerry Maneker)	(3)	TTH	12:30-1:45p
7,8-SOCI 184, Sociology of Deviant Behavior (Jerry Maneker)	(3)	TTH	2:00-3:15p
EDUC 370, Foundations of Bilingual Education (Jesus Cortez)	(3)	MON	4:00-6:50p
2-ECON 297D, Economic Problems in American Society (Mark Morlock)	(3)	MON	7:00-9:50p
EDUC 335B, Current Trends and Statistical Analysis in Educational Research (Frank Gladen)	(3)	TUE	4:00-6:50p
3-HCSV 142/SWRK 195, Social Services for the Aging (Archie McDonald)	(3)	TUE	7:00-9:50p
EDUC 236E, Seminar in the Teaching of Secondary English (Louise Jensen)	(3)	WED	4:00-6:50p
2,7,8-SOCI 265, The Conduct of Social Inquiry (Julio Quinones)	(3)	WED	7:00-9:50p
EDUC 241, Mainstreaming (Al Marshall)	(3)	THU	4:00-6:50p
6-AMST 150, Northern California Studies (Robert Jackson)	(3)	THU	7:00-9:50p

1-Part of Family Relations Minor
2-Part of B.A. in Social Science
3-Part of Gerontology Minor
4-Part of Paralegal Certificate
5-Part of Liberal Studies XD Program
6-Part of California Studies Minor
7-Part of B.A. in Sociology
8-Part of Sociology Minor
9-Part of Health Care Mgmt. Minor
10-Part of Political Science Minor

AMST-American Studies
CSCI-Computer Science
ECON-Economics
EDUC-Education
HCSV-Health and Community Serv.
HIST-History
POLS-Political Science
PSY-Psychology
SOCI-Sociology
SOSC-Social Science
SWRK-Social Work

SPRING SEMESTER CLASSES BEGIN MONDAY, JANUARY 23, 1984

Fall 1984 ITFS Courses (tentative)

9-HCSV 235, Politics of Health Care (Howard Kalmer)	(3)	MWF	8:00-8:50a
9,10-POLS 260A, Introduction to Public Administration (Byron Jackson)	(3)	MWF	9:00-9:50a
7,8-SOCI 170, Sociology of Religion (Bill Martin)	(3)	MWF	10:00-10:50a
7,8-SOCI 266, Data Collection and Analysis (Clark Davis)	(3)	MWF	11:00-11:50a
CSCI, Specific course to be arranged		MWF	12:00-12:50p
3,11-PSY 207/HCSV 240, Psychology of Aging (Marv Megibow)	(3)	MWF	1:00-1:50p
11-PSY 147, Psychology of Prejudice (Staff)	(3)	MWF	2:00-2:50p
CSCI, Specific course to be arranged		MWF	3:00-3:50p
CSCI, Specific course to be arranged		TTH	8:00-9:15a
CSCI, Specific course to be arranged		TTH	9:30-10:45a
1-HCSV 111, Human Sexuality (Rosalind Flora)	(3)	TTH	11:00-12:15p
2,5,6-SOSC 102, Temporal Concepts (Jaime Raigoza)	(3)	TTH	12:30-1:45p
12-SWRK 102, Perspectives on Human Behavior in the Social Environment (Staff)	(3)	TTH	2:00-3:15p
EDUC 306, Current Issues in Public Education (Arley Howsden)	(3)	MON	4:00-6:50p
2-ANTH 276, Peoples & Cultures of Africa (Art Lehmann)	(3)	MON	7:00-9:50p
EDUC 236, Curriculum Development for Intercultural and Interracial Understanding (Hilda Hernandez)	(3)	TUE	4:00-6:50p
4,10-POLS 254, Legal Research (Teodora DeLorenzo)	(3)	TUE	7:00-8:15p
4,10-POLS 251B, Civil Rights & Civil Liberties (Dane Cameron)	(3)	TUE	8:30-9:45p
EDUC 335A, Seminar in Educational Research (Frank Gladen)	(3)	WED	4:00-6:50p
2-GEOG 114, Environmental Issues (Ed Myles)	(3)	WED	7:00-9:50p
4,10-POLS 254, Legal Research (Teodora DeLorenzo)	(3)	THU	4:00-5:15p
4,10-POLS 251B, Civil Rights & Civil Liberties (Dane Cameron)	(3)	THU	5:30-6:45p
6,10-POLS 203, Local Government (Royce Delmatier)	(3)	THU	7:00-9:50p
EDUC 348E, The RST as a Coordinator (Staff) (9/15, 22 & 29) (Also includes Practicum, EDUC 248E)	(1)	SAT	9:00-3:00p
EDUC 248C, Laws and Regulations in Special Education (Staff) (10/6, 13 & 20)	(1)	SAT	9:00-3:00p
EDUC 248F, The RST: In-Service and Staff Development (Staff) (10/27, & 11/3 & 10)	(1)	SAT	9:00-3:00p
EDUC 348G, The RST: Vocational Education (Staff) (11/17, & 12/1 & 8)	(1)	SAT	9:00-3:00p

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7-Part of B.A. in Sociology
8-Part of Sociology Minor
9-Part of Health Care Management Minor
10-Part of Political Science Minor
11-Part of Psychology Minor
12-Part of Child Welfare Minor (tentative)

ANTH-Anthropology
CSCI-Computer Science
EDUC-Education
GEOG-Geography
HCSV-Health & Community Service
POLS-Political Science
PSY-Psychology
SOCI-Sociology
SOSC-Social Science
SWRK-Social Work

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Attachment #9

CHICO

MASTERS IN COMPUTER SCIENCE PROGRAM

A Two Year On-Line Video Program

HEWLETT PACKARD

California State University, Chico

A Co-Partnership In Education

COURSE OFFERINGS

FALL '84

Course #	Course Title	# Units
151	Data & Program Structures	3
280	Digital Logic Design Theory	3
370	System Design Theory	3
382A	Information Theory	3

SPRING '85

171	Computer Architecture	3
250	Compiler Theory	3
380	Digital System Design	3
397C-(Seminar)	Seminar in Advanced Topics	3

SUMMER '85

152	Operating Systems Programming	3
172	Systems Architecture	3
3xx (Start Project)		

FALL '85

152	Operating Systems & Programming	3
285	Microprocessor Components & Systems	3
320A	Digital & Analog Transform Theory	3
381A	Computer Morphology	3

SPRING '86

172	Systems Architecture	3
272	Multi-User Operating Systems	3
322	Artificial Intelligence	3
376	Theory of Information Retrieval	3

SUMMER '86

2xx 3xx 3xx	(Total of 9 Units)

AND 2/84